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3. ORDER NO. 0072		,			EFERENCE NO. .4-00137	HPOD RRB						
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ORDER FOR SUPPLIES OR SERVICES SCHEDULE - CONTINUATION

PAGE NO

2

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

DATE OF ORDER CONTRACT NO. 05/22/2014 EP-W-10-054

ORDER NO. 0072

ITEM NO.	SUPPLIES/SERVICES	QUANTITY		UNIT	AMOUNT	QUANTITY
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	The Contractor shall perform services in	Ì				
	accordance with the attached revised		3			
	statement of work (SOW) dated March 28,					
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	amount of \$148,413.02.					
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	established at \$148,413.02, which the		l		1	
	Contracotr is not authorized to exceed. Any		l		į	v
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	Contractor's own risk. This task order is		1			
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	for non-severable services. This is a firm			ľ		
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	EPA will utilize the FedConnect web portal					
	in administering this task order. The					
	contractor must be registered in FedConnect		1			
	and have access to the FedConnect website	l				e.
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ORDER FOR SUPPLIES OR SERVICES **SCHEDULE - CONTINUATION**

PAGE NO

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DATE OF ORDER	CONTRACT NO.	ORDER NO.							
05/22/2014	EP-W-10-054	0072							

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Recycling Economic Impact Metrics Statement of Work March 28, 2014

Part 1- General Information

BACKGROUND— Recycling Economic Impact Metrics

The US Environmental Protection Agency (EPA) through a cooperative agreement with the National Recycling Coalition (NRC), 16 states and the Northeast Recycling Council (NERC) did the seminal work demonstrating the importance of recycling and reuse to the US economy in the 1990's. This initial <u>US Recycling Economic Information Project</u> (REI) is the foundation of numerous states' and regions' efforts to create updated and more localized studies on the impact of recycling. Various trade associations, states, local governments and nongovernment organizations (NGOs) have also explored the direct economic impacts, indirect and induced economic benefits and federal, state, and local tax revenue generated by recycling and reuse. Several states updated the original REI methodology to characterize a more precise view of the economic impacts.

Others states, like California and Oregon and the U.S. Department of Labor have taken a broader sustainability, sustainable materials management and green jobs point of view. A partial listing of some of these state, regional and other trade/NGO job studies are found in Part 3- Other Information. Some states also developed recycling market development directories to connect industries seeking to use recycled materials and to encourage demand for such products. These directories vary dramatically in breadth, visibility and how up to date they are especially in the context of all of the state and local budget cuts over the last decade. So while the need for accurate and useful data grows the capabilities and access to such tools have been restrained.

During the same timeframe of the initial REI effort, EPA supported the development of case studies and The Institute for Local Self Reliance (ISLR) developed a generic job per 10,000 tons per year for selected reuse and recycling operations. (See Part 3.) These remain the best but very dated comparison information available. The Container Recycling Institute and Tennessee have also developed job creation and economic impact analysis and Missouri did a Recycling Grant Return on Investment (ROI) calculation. In 2006, a South Carolina study conservatively estimated 1.68 jobs per 1,000 tons of MSW recycled. In Missouri, studies on the impact of grant programs showed that recycling and reuse industries are pure job creators and provide a greater return on investment for recycling market development than conventional economic development investments. EPA is seeking comparable and more up to date job creation, market development investment and per capita metrics for national, regional and state application.

This effort is part of a broad range of efforts to deal with the national recycling rate growing slowly over the last decade and facilitating the transition from waste management to sustainable materials management which is over a decade old, but only beginning to get traction. EPA convened a National Dialogue on Sustainable Financing of Recycling: Consumer Packaging in 2010-2011 that looked at optimization of existing components of the recycling system; identification of mechanisms to address shortfalls in the current recycling system (including the need for long-term financing and opportunities for fully utilizing the existing value chain) and maximization of the source reduction, collection, reuse, and recycling of packaging and printed materials. Out of this effort, a trade association called AMERIPEN continued the research by completing a 100 cities study assessment of the materials management infrastructure in the United States. The assessment included a web-based knowledge map. Other optimization assessments are underway to build better data collection and metrics.

The updated REI methodology and report combined with new metrics will be added to the tool kit for helping local, state and regional planners, waste, material and sustainability managers and policy makers assess appropriate investments in infrastructure and policy development.

PURPOSE AND OBJECTIVES

The purpose is to create new updated national recycling and reuse job statistics and metrics.

The objectives are to:

- Update the original Recycling Economic Impact (REI) study methodology incorporating and aggregating the best of other national, state and regional studies with clear definitions and using market based terminology, categories and nomenclature;
- Create a transparent, replicable, scalable, verifiable, updatable methodology to generate future updates of the REI report with national job creation statistics for recycling and reuse;
- 3. Generate a new REI Report;
- 4. Update generic job per 10,000 tons per year for selected reuse and recycling operations and like the South Carolina effort, create generic recycling and reuse metrics of job creation for cities and states to use as a guide for Recycling Economic Impact estimation. Investigate possible return on investment (ROI) in recycling market development projects metrics.

Part 2- SCOPE OF WORK

The work to be completed and the schedule of deliverables are included in the tasks and subtasks detailed below.

TASK 1A. UPDATE ORIGINAL REI STUDY METHODOLOGY (Task Area 1, 6 and 7 of Base Contract SOW)

Based upon existing public data, case studies and research and readily available methodologies, the contractor shall develop an updated national REI study methodology. The methodology shall be as transparent, replicable, verifiable, and updatable, as practicable. The methodology must include the direct economic impacts, indirect and induced economic benefits and federal, state, and local tax revenue generated by recycling, remanufacturing and reuse. This should include the entire value chain of collection, sorting and processing in addition to end users. Categorization of the supply and demand sectors needs to be clearly identified between the recycling industries, recycling reliant industries and reuse and remanufacturing industries. There should be clear definitions primarily from the state data measurement sharing program and the use of existing trade commerce terminology for each commodity and packaging sectors (within paper, plastics, glass, ferrous and non-ferrous, aseptic packaging, etc.) The methodology should reflect and be applicable to present and adaptable to future market scenarios.

Direct economic impacts include the collection and processing involving municipal and private collectors, transfer stations and hauling, public curbside collection, material recovery facilities, redemption centers and retailers, composting and other organic processing facilities and recyclable material wholesalers; recycling manufacturing including glass and steel mills, converters, reclaimers and manufacturers, paper and paperboard mills, and nonferrous metal manufacturers, pavement mix producers, rubber product manufacturers; reuse and remanufacturing and repair of products. Indirect impacts include service based business like recycling and reuse equipment manufacturers, consultants and engineers, brokers, transporters, accounting firms and office supply companies. Please note any additional direct or indirect activities that should be considered and cost them out separately.

Methodology should show gross activities and true net impact so economic losses that result from recycling and reuse (like collection and landfilling) are addressed. The methodology should also take into consideration future opportunities to incorporate data collected in the state data measurement sharing program template that has been developed by the states with EPA support. (A copy of the first national 2012 State Data Measurement Sharing Program (SDMSP) template is included in this package.) The SDMSP had twenty states participate in the first year roll out with data availability ranging from comprehensive numbers for various solid waste and recycling categories to very limited data on solid waste disposal. Several other states have already signed up to participate and more expected as the project moves forward. A spreadsheet of the data provided will be provided after QA and QC is completed in April. This methodology will be used primarily by EPA and will be national in its focus with the

capability to be broadened to state and regional levels at a later date. EPA intends to make the methodology and the data as transparent as possible and will need the ability to have access and use the methodology and data at the conclusion of the contract. EPA will require that the standard federal CBI requirements be maintained as needed with sufficient aggregation to protect proprietary data sources. EPA will take the necessary steps of posting a Federal Register Notice to authorize the contractor to have access to any CBI related data.

Expect to use publically available data or data and information already privately collected by other third parties that can be procured and contractors already have access to or used before. No Information Collection Request (ICR) is planned. The cap of 9 individuals for the same question will be required.

The scope is to use data sources from existing studies in combination with other available data and create an updated and improved national recycling economic impact methodology. EPA will consider all suggestions regarding methodology improvements and the tools used to create it. Initial recommendations made by ERG are posted on EPA's Recycling Market Development website: http://www.epa.gov/wastes/conserve/tools/rmd/rei-rw/index.htm. While EPA prefers a more complex and vibrant model like REMI, any input/output modeling or other approach that facilitate transparency and clearly understood data and methodology will be considered. Open sourced non-proprietary approaches are encouraged.

DELIVERABLES	DUE DATES
Initial Meeting	Within 10 calendar days of contract execution
Draft methodology and preliminary recommendations	Within 60 calendar days of initial meeting
	EPA has up to 30 calendar days for each review
Final methodology and recommendations	Within 15 calendar days after ORCR comments on draft methodology and recommendations
Transfer all original data and reference materials collected during the task	Within 10 calendar days after the completion of all three tasks.

TASK 2. GENERATE THE NEW REI REPORT (Task Area 7 of Base Contract SOW)

Taking the methodology developed and approved in task 1, the contractor shall generate a new REI Report. The report will provide the national recycling economic impact including jobs, taxes, total income and direct economic impacts, indirect and induced economic benefits and federal, state, and local tax revenue generated by recycling and reuse. It will also include landfill cost avoidance and projections of economic impacts for improving recycling rates from present national recycling rates (see most recent MSW Report) to 50% and 75% national recycling rates. Another way of looking at the latter would be to calculate "potential" of material not being

collected or disposed. (A copy of the working papers of the MSW Report have been provided.)

The report will include colorful and easy to read charts, graphs and include summary infographics comparable to the MSW Characterization report infographics that can be used for conventional and social media outlets in sharing the story. The report should include an executive summary of 12 to 15 pages, introduction, data characterization, study methodology, study results, identification of data gaps, and opportunities for improvement and recommendations for future efforts. The original report was 158 pages with several dozen tables and over a dozen figures, expect similar quantities if not more since this needs to be as transparent as practical. Design and plan for the report to be primarily shown on the EPA website, so it must be 508 compliant and in PDF format. Plan on one major infographic, a separate PDF of the executive summery and the full report. Seeking creative and different approaches to sharing the results, for example using the Edward Tufte model of visual representation.

There will be one full review of each written draft deliverable and at least two minor edits.

DELIVERABLES	DUE DATES
Draft REI Report	Within 90 calendar days of EPA approval of the methodology
	EPA has up to 30 calendar days for review
REI Report	Within 15 calendar days of Draft approval
Transfer all original data and reference	Within 10 calendar days after the completion of all
materials collected during the project	three tasks.

TASK 3. GENERATE NEW USABLE JOB CREATION METRICS FOR STATE AND LOCAL USE--(Task Area 7 of Base Contract SOW)

The contractor shall update and expand the job creation metrics for various commodities of recyclables and reuse industries. The contractor shall develop comparable jobs per 1,000 tons of MSW recycled metrics like the South Carolina example. If practical, seek out other examples and assess appropriate ranges based upon demographics for states and localities to use to assess the economic impacts in their own jurisdictions.

The contractor shall provide a complete report on data used, assumptions made and methodology adopted to create the recycling and reuse metrics for state and local governments. If possible, the metrics need to address waste characterization categories by material, container and packaging, durables and non-durables as found in the state data measurement sharing template or developed in the MSW Characterization Report. However, whenever there is a market based definition and category that can provide better more accurate information please provide that alternative. The metrics also need to take into account changing waste streams like the decline in fiber, growth in plastic and aseptic

packaging and changes in electronics. Recommendations on how to continually update and improve these metrics through additional case studies, research and development should be included. Also include a review of availability of data, sources and key data or methodology and metrics gaps.

The scope is to update and improve the existing recycling metrics; provide at least one recycling and reuse metric for use at the local, state, regional and national level and provide recommendations for additional metrics and improvements. The jobs per 1,000 tons metric will be used in the State Measurement Data Sharing Program and as a generic rule of thumb in assessing recycling market development potential.

There will be one full review of each written draft deliverable and at least two minor edits.

DELIVERABLES	DUE DATES
Draft Report on REI metrics	Within 45 calendar days from EPA methodology approval or mutually agreed time after initial meeting
	EPA has up to 30 calendar days for review
Final Report on REI metrics	Within 15 calendar days of Draft approval
Transfer all original data and reference materials collected during the project	Within 10 calendar days after completion of task 3.

Part 3- Other information

Communications

Contractor should anticipate biweekly teleconferences as needed between deliverable times lasting an average of 30 to 45 minutes each.

Period of Performance

The Period of Performance for this Task Order shall conclude 12 months from contract award date.

Deliverables

Please provide all deliverables, source documentation and all supporting research and documentation of the methodology, report and recommendations electronically by email and one hard copy to the TOCOR and alternative TOCOR in Microsoft Office 2013 compatible products including (Word, Access, Excel, Publisher, and Power Point).

EPW10054/0072
References
MSW Characterization Report

Partial list of selected economic impact studies

National Recycling Focus

US EPA, US Recycling Economic Information Project.

Tellus Institute with Sound Resource Management for Recycling Works!, <u>More Jobs, Less Pollution: Growing the Recycling Economy in the U.S.</u>, 2011.

National with some State and Congressional Breakdown

Institute of Scrap Recyclers Industries, Inc. (ISRI), <u>Economic Impact Study U.S.-Based Scrap</u> <u>Recycling Industry 2011</u>. Updated in 2013.

Regional Recycling Focus

NERC NRC REI Report (1994 and 2000)

Northeast Recycling Council (NERC), <u>Recycling Economic Information Study Update: Delaware, Maine, Massachusetts, New York, and Pennsylvania FINAL REPORT</u>. February, 2009

Southeast Recycling Development Council (SERDC) <u>lists of state economic impact related</u> reports.

State Recycling Focus

Arizona (1996)

REI related California, Florida, Indiana, Nebraska, Ohio, Illinois, Minnesota, Wisconsin and Missouri (2000-2001)

California Integrated Waste Management Board (CIWMB) now CalRecycle, <u>The Economic</u>
<u>Impact of Waste Disposal and Diversion in California</u>, 2001. (University of California, Berkeley, IMPLAN)

Connecticut Resources Recovery Authority, <u>The Economic Impact on Connecticut from Recyclina</u> <u>Activity</u>, 2012. (Used IMPLAN.)

Illinois DCCA (2002)

Illinois Recycling Coalition and Illinois DCEO, <u>2010 Recycling Economic Information Study Update</u> for Illinois. (DSM Environmental, whole model)

Indiana (2001)

Indiana Recycling Coalition, <u>The untapped job potential of Indiana's recycling industry</u>, 2013. (Bowen Center for Public Affairs, Ball State University)

lowa (1996, 2001)

lowa Department of Natural Resources (Iowa DNR), <u>Economic Impacts of Recycling in Iowa</u>, 2007. (RW Beck, I/O used)

Massachusetts (2004)

Michigan (2001)

Missouri's Environmental Improvement and Energy Resources Authority (EIERA), Missouri Recycling Economic Information Study MOREIS, 2003. (Institute of Public Policy, Truman School of Public Policy, University of Missouri – Columbia). Updated in 2006.

Missouri Organization of Recyclers (MORA) <u>Recycling in Missouri: Expanding our economy</u> Strengthening our communities Improving our environment A 2013 Progress Report, 2013.

Missouri grant impact ROI reference

Minnesota Office of Environmental Assistance, now Minnesota Pollution Control Agency (MPCA), Minnesota's Recycling Industries: Economic Activity Summary, 2002.

Montana DEQ (2004)

North Carolina (2008)

North Carolina Department of Environment and Natural Resources, Recycling Business Assistance Center (RBAC) Employment Trends in North Carolina's Recycling Industry, 2010.

North Carolina Department of Environment and Natural Resources, Recycling Business Assistance Center (RBAC) <u>Employment Trends in North Carolina's Recycling Industry</u>, 2013

Ohio Department of Natural Resources (Ohio DNR), Ohio Recycling Economic Information Study 2001. (RW Beck, NRC)

Pennsylvania (2007)

South Carolina Department of Health and Environmental Control and the S.C. Department of Commerce, <u>The Economic Impact of the Recycling Industry in South Carolina</u>, 2006. (College of Charleston, IMPLAN)

Virginia Department of Environmental Quality (VA DEQ), <u>The Economic Benefits of Recycling in Virginia</u>, >2007. (Thomas Jefferson Program in Public Policy At the College of William and Mary)

Washington Survey of Washington State's Recycling Industry (1992 and updates)

Local Government

St. Louis - Jefferson Solid Waste Management District, St. Louis Metropolitan Area Recycling Economic Information Study (SLMAREIS) 2002. (College of Business Administration, University of Missouri - St. Louis and University of Missouri Outreach and Extension)

Seattle/King County

Broader Sustainability or "Green" Focus

State of California Employment Development Department, <u>California's Green Economy</u>, <u>Summary of Survey Results</u>, 2010.

Bureau of Labor Statistics Measuring Green Jobs

Recycling Job Metrics

Type of Operation	Jobs per 10,000 TPY
Product Reuse	9 maril 1 maril 1 maril 1 Maril 1 mari
Computer Reuse	296
Textile Reclamation	85
Misc. Durables Reuse	62
Wooden Pallet Repair	28
Recycling-based Manufacturers	25
Paper Mills	18
Glass Product Manufacturers	26
Plastic Product Manufacturers	93
Conventional Materials Recovery Facilities	10
Composting	4
Landfill and Incineration	1
TPY = tons per year Note: Figures are based on interviews with selection	t facilities around the
country. Source: Institute for Local Self-Reliance, Washington, DC, 1	997.
http://www.ilsr.org/recycling-means-business/	

AMENDMENT OF SOLICITATION/MODIFIC	ATION OF CONTRACT		1. CONTRACT ID CODE	PAGE 1	OF PAGES
2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQ	UISITION/PURCHASE REQ. NO.		NO. (If applicable)
001	See Block 16C	PR-S	RRPOD-15-00024		
6. ISSUED BY CODE	SRRPOD	7. ADN	MINISTERED BY (If other than Item 6)	CODE	
SRRPOD US Environmental Protection Superfund/RCRA Regional Proc Operations 1200 Pennsylvania Ave, NW Washington DC 20460					
8. NAME AND ADDRESS OF CONTRACTOR (No., street	et, county, State and ZIP Code)	(x) 9A.	AMENDMENT OF SOLICITATION NO.		. 3-00
ABT ASSOCIATES INC. Attn: (b)(4) 4550 MONTGOMERY AVENUE SUITE 800 NORTH BETHESDA MD 208143343		9B.	DATED (SEE ITEM 11) MODIFICATION OF CONTRACT/ORDER W-10-054 172 DATED (SEE ITEM 13)	NO.	
CODE 058595539	FACILITY CODE	$\dashv \mid_{\circ}$	5/22/2014		
	11. THIS ITEM ONLY APPLIES			38.1	
separate letter or telegram which includes a reference THE PLACE DESIGNATED FOR THE RECEIPT OF virtue of this amendment you desire to change an off to the solicitation and this amendment, and is received	pies of the amendment; (b) By acknote to the solicitation and amendment in OFFERS PRIOR TO THE HOUR AN er already submitted, such change mid prior to the opening hour and date:	owledging red numbers. FA ID DATE SPI ay be made t	eipt of this amendment on each copy of the outline of Your ACKNOWLEDGEMENT TO ECIFIED MAY RESULT IN REJECTION OF Y	offer submitted; o O BE RECEIVED YOUR OFFER. I	r (c) By AT by
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			SES SET FORTH IN ITEM 14 ARE MADE IN MINISTRATIVE CHANGES (such as change OF FAR 43.103(b).		
C. THIS SUPPLEMENTAL AGREEME	NT IS ENTERED INTO PURSUANT 1	TO AUTHOR	ITY OF:		
X FAR 52.232-22 Limita		1984)			
D. OTHER (Specify type of modification	n and authority)				
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E.IMPORTANT: Contractor is not. 14. DESCRIPTION OF AMENDMENT/MODIFICATION DUNS Number: 058595539 Recycling Economic Impact (I					
TOPO: Kent Foerster Max Exp: The purpose of this bilatera				•	
 Deobligate funds; and Modify the total task or 	der obligation/fund	ding am	ount.		
Funds in the amount of \$45,114-15-B-31M-302DA1-2585-143. Continued Except as provided herein, all terms and conditions of	1MRP008-001.			n full force and eff	ect.
15A. NAME AND TITLE OF SIGNER (Type or print)	5.5 3555mon foreigness in nem 5A C		NAME AND TITLE OF CONTRACTING OF		
		Car	rolyn Mosinski		
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNE	ED 10	avljn W. Mosinski	ELECTRONIC	16C. DATE SIGNED
(Signature of person authorized to sign)		,	V	SIGNATURE	11/00/2014

NSN 7540-01-152-8070 Previous edition unusable STANDARD FORM 30 (REV. 10-83) Prescribed by GSA FAR (48 CFR) 53.243

CONTINUATION CUEET	REFERENCE NO. OF DOCUMENT BEING CONTINUED	PAGE	OF
CONTINUATION SHEET	EP-W-10-054/0072/001	2	3

NAME OF OFFEROR OR CONTRACTOR ABT ASSOCIATES INC.

NO. .)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
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	This modification is for the purpose of payment				
	adjustment. Funding in the same amount				
	deobligated on this modification will be		1		
	reobligated with funding from Task Order 71 via				
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	\$102,434.43, which the Contractor is not				
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		he document re	erenced in Item 9A or 10		heretofore changed, remains unchanged and A. NAME AND TITLE OF CONTRACTING O		*	_
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15B. CONTRACTOR/OFFEROR			15C. DATE SIGNED	10	Cawlyn W. Mosinski		TRONIC	6C. DATE SIGNED 11/07/2014
(Signature of person authori	zea to sign)		J					1 30 (REV. 10-83)

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NAME OF OFFEROR OR CONTRACTOR ABT ASSOCIATES INC.

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22	All other terms and conditions remain unchanged.				
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1200 Pennsylvania Ave, NW					
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	11. THIS ITEM ONLY APPLIES	S TO AMENDA	ENTS OF SOLICITATIONS		
The above numbered solicitation is amended as set for	orth in Item 14. The hour and date s	specified for re	ceipt of Offers	s extended, is not extended.	
Offers must acknowledge receipt of this amendment p					
	to the second se		eipt of this amendment on each copy of t	A 10.5 *	
separate letter or telegram which includes a reference THE PLACE DESIGNATED FOR THE RECEIPT OF					
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A. THIS CHANGE ORDER IS ISSUED F ORDER NO. IN ITEM 10A.	URSUANT TO: (Specify authority)	THE CHANG	ES SET FORTH IN ITEM 14 ARE MADE	IN THE CONTRACT	
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Recycling Economic Impact (R	El) Metrics				
TOCOR: Kent Foerster Max Exp	ire Date: 06/30/20	015			
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1) Incorporate the revised s	tatement of work	dated Ma	arch 31 2015 (10 pag	res) · and	
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2) Extend the period of peri	ormance.				
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This extension is needed due	to delays beyond	the con	ntractor's control. T	This extension is	
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Except as provided herein, all terms and conditions of the	e document referenced in Item 9A c	or 10A, as her	etofore changed, remains unchanged and	d in full force and effect.	
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		Car	olyn Mosinski		
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NAME OF OFFEROR OR CONTRACTOR ABT ASSOCIATES INC.

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Recycling Economic Impact Metrics Statement of Work March 31, 2015

Part 1- General Information

BACKGROUND-- Recycling Economic Impact Metrics

The US Environmental Protection Agency (EPA) through a cooperative agreement with the National Recycling Coalition (NRC), 16 states and the Northeast Recycling Council (NERC) did the seminal work demonstrating the importance of recycling and reuse to the US economy in the 1990's. This initial <u>US Recycling Economic Information Project</u> (REI) is the foundation of numerous states' and regions' efforts to create updated and more localized studies on the impact of recycling. Various trade associations, states, local governments and nongovernment organizations (NGOs) have also explored the direct economic impacts, indirect and induced economic benefits and federal, state, and local tax revenue generated by recycling and reuse. Several states updated the original REI methodology to characterize a more precise view of the economic impacts.

Others states, like California and Oregon and the U.S. Department of Labor have taken a broader sustainability, sustainable materials management and green jobs point of view. A partial listing of some of these state, regional and other trade/NGO job studies are found in Part 3- Other Information. Some states also developed recycling market development directories to connect industries seeking to use recycled materials and to encourage demand for such products. These directories vary dramatically in breadth, visibility and how up to date they are especially in the context of all of the state and local budget cuts over the last decade. So while the need for accurate and useful data grows the capabilities and access to such tools have been restrained.

During the same timeframe of the initial REI effort, EPA supported the development of case studies and The Institute for Local Self Reliance (ISLR) developed a generic job per 10,000 tons per year for selected reuse and recycling operations. (See Part 3.) These remain the best but very dated comparison information available. The Container Recycling Institute and Tennessee have also developed job creation and economic impact analysis and Missouri did a Recycling Grant Return on Investment (ROI) calculation. In 2006, a South Carolina study conservatively estimated 1.68 jobs per 1,000 tons of MSW recycled. In Missouri, studies on the impact of grant programs showed that recycling and reuse industries are pure job creators and provide a greater return on investment for recycling market development than conventional economic development investments. EPA is seeking comparable and more up to date job creation, market development investment and per capita metrics for national, regional and state application.

This effort is part of a broad range of efforts to deal with the national recycling rate growing slowly over the last decade and facilitating the transition from waste management to sustainable materials management which is over a decade old, but only beginning to get traction. EPA convened a National Dialogue on Sustainable Financing of Recycling: Consumer Packaging in 2010-2011 that looked at optimization of existing components of the recycling system; identification of mechanisms to address shortfalls in the current recycling system (including the need for long-term financing and opportunities for fully utilizing the existing value chain) and maximization of the source reduction, collection, reuse, and recycling of packaging and printed materials. Out of this effort, a trade association called AMERIPEN continued the research by completing a 100 cities study assessment of the materials management infrastructure in the United States. The assessment included a web-based knowledge map. Other optimization assessments are underway to build better data collection and metrics.

The updated REI methodology and report combined with new metrics will be added to the tool kit for helping local, state and regional planners, waste, material and sustainability managers and policy makers assess appropriate investments in infrastructure and policy development.

PURPOSE AND OBJECTIVES

The purpose is to create new updated national recycling and reuse job statistics and metrics.

The objectives are to:

- 1. Update the original Recycling Economic Impact (REI) study methodology incorporating and aggregating the best of other national, state and regional studies with clear definitions and using market based terminology, categories and nomenclature;
- Create a transparent, replicable, scalable, verifiable, updatable methodology to generate future updates of the REI report with national job creation statistics for recycling and reuse;
- 3. Generate a new REI Report;
- 4. Update generic job per 10,000 tons per year for selected reuse and recycling operations and like the South Carolina effort, create generic recycling and reuse metrics of job creation for cities and states to use as a guide for Recycling Economic Impact estimation. Investigate possible return on investment (ROI) in recycling market development projects metrics.

EPW10054/0072/003 Part 2- SCOPE OF WORK

The work to be completed and the schedule of deliverables are included in the tasks and subtasks detailed below.

TASK 1A. UPDATE ORIGINAL REI STUDY METHODOLOGY (Task Area 1, 6 and 7 of Base Contract SOW)

Based upon existing public data, case studies and research and readily available methodologies, the contractor shall develop an updated national REI study methodology. The methodology shall be as transparent, replicable, verifiable, and updatable, as practicable. The methodology must include the direct economic impacts, indirect and induced economic benefits and federal, state, and local tax revenue generated by recycling, remanufacturing and reuse. This should include the entire value chain of collection, sorting and processing in addition to end users. Categorization of the supply and demand sectors needs to be clearly identified between the recycling industries, recycling reliant industries and reuse and remanufacturing industries. There should be clear definitions primarily from the state data measurement sharing program and the use of existing trade commerce terminology for each commodity and packaging sectors (within paper, plastics, glass, ferrous and non-ferrous, aseptic packaging, etc.) The methodology should reflect and be applicable to present and adaptable to future market scenarios.

Direct economic impacts include the collection and processing involving municipal and private collectors, transfer stations and hauling, public curbside collection, material recovery facilities, redemption centers and retailers, composting and other organic processing facilities and recyclable material wholesalers; recycling manufacturing including glass and steel mills, converters, reclaimers and manufacturers, paper and paperboard mills, and nonferrous metal manufacturers, pavement mix producers, rubber product manufacturers; reuse and remanufacturing and repair of products. Indirect impacts include service based business like recycling and reuse equipment manufacturers, consultants and engineers, brokers, transporters, accounting firms and office supply companies. Please note any additional direct or indirect activities that should be considered and cost them out separately.

Methodology should show gross activities and true net impact so economic losses that result from recycling and reuse (like collection and landfilling) are addressed. The methodology should also take into consideration future opportunities to incorporate data collected in the state data measurement sharing program template that has been developed by the states with EPA support. (A copy of the first national 2012 State Data Measurement Sharing Program (SDMSP) template is included in this package.) The SDMSP had twenty states participate in the first year roll out with data availability ranging from comprehensive numbers for various solid waste and recycling categories to very limited data on solid waste disposal. Several other states have already signed up to participate and more expected as the project moves forward. A spreadsheet of the data provided will be provided after QA and QC is completed in April.

This methodology will be used primarily by EPA and will be national in its focus with the capability to be broadened to state and regional levels at a later date. EPA intends to make the methodology and the data as transparent as possible and will need the ability to have access and use the methodology and data at the conclusion of the contract. EPA will require that the standard federal CBI requirements be maintained as needed with sufficient aggregation to protect proprietary data sources. EPA will take the necessary steps of posting a Federal Register Notice to authorize the contractor to have access to any CBI related data.

Expect to use publically available data or data and information already privately collected by other third parties that can be procured and contractors already have access to or used before. No Information Collection Request (ICR) is planned. The cap of 9 individuals for the <u>same</u> question will be required.

The scope is to use data sources from existing studies in combination with other available data and create an updated and improved national recycling economic impact methodology. EPA will consider all suggestions regarding methodology improvements and the tools used to create it. Initial recommendations made by ERG are posted on EPA's Recycling Market Development website: http://www.epa.gov/wastes/conserve/tools/rmd/rei-rw/index.htm. While EPA prefers a more complex and vibrant model like REMI, any input/output modeling or other approach that facilitate transparency and clearly understood data and methodology will be considered. Open sourced non-proprietary approaches are encouraged.

DELIVERABLES	DUE DATES
Initial Meeting	Within 10 calendar days of contract execution
Draft methodology and preliminary recommendations	Within 60 calendar days of initial meeting
	EPA has up to 30 calendar days for each review
Final methodology and recommendations	Within 15 calendar days after ORCR comments on draft methodology and recommendations
Transfer all original data and reference materials collected during the task	Within 10 calendar days after the completion of all three tasks.

TASK 2. GENERATE THE NEW REI REPORT (Task Area 7 of Base Contract SOW)

Taking the methodology developed and approved in task 1, the contractor shall generate a new REI Report. The report will provide the national recycling economic impact including jobs, taxes, total income and direct economic impacts, indirect and induced economic benefits and federal, state, and local tax revenue generated by recycling and reuse. It will also include landfill cost avoidance and projections of economic impacts for improving recycling rates from present national recycling rates (see most recent MSW Report) to 50% and 75% national recycling rates.

Another way of looking at the latter would be to calculate "potential" of material not being collected or disposed. (A copy of the working papers of the MSW Report have been provided.)

The report will include colorful and easy to read charts, graphs and include summary infographics comparable to the MSW Characterization report infographics that can be used for conventional and social media outlets in sharing the story. The report should include an executive summary of 12 to 15 pages, introduction, data characterization, study methodology, study results, identification of data gaps, and opportunities for improvement and recommendations for future efforts. The original report was 158 pages with several dozen tables and over a dozen figures, expect similar quantities if not more since this needs to be as transparent as practical. Design and plan for the report to be primarily shown on the EPA website, so it must be 508 compliant and in PDF format. Plan on one major infographic, a separate PDF of the executive summery and the full report. Seeking creative and different approaches to sharing the results, for example using the Edward Tufte model of visual representation.

There will be one full review of each written draft deliverable and at least two minor edits.

March 31, 2015 Revision: Draft due April 13, 2015.

DELIVERABLES	DUE DATES
Draft REI Report	Within 90 calendar days of EPA approval of the methodology
	EPA has up to 30 calendar days for review
REI Report	Within 15 calendar days of Draft approval
Transfer all original data and reference materials collected during the project	Within 10 calendar days after the completion of all three tasks.

TASK 3. GENERATE NEW USABLE JOB CREATION METRICS FOR STATE AND LOCAL USE--(Task Area 7 of Base Contract SOW)

The contractor shall update and expand the job creation metrics for various commodities of recyclables and reuse industries. The contractor shall develop comparable jobs per 1,000 tons of MSW recycled metrics like the South Carolina example. If practical, seek out other examples and assess appropriate ranges based upon demographics for states and localities to use to assess the economic impacts in their own jurisdictions.

The contractor shall provide a complete report on data used, assumptions made and methodology adopted to create the recycling and reuse metrics for state and local governments. If possible, the metrics need to address waste characterization categories by material, container and packaging, durables and non-durables as found in the state data measurement sharing template or developed in the MSW Characterization Report. However, whenever there is a market based definition and category that can provide better more accurate information please provide that alternative. The metrics also need to take into

account changing waste streams like the decline in fiber, growth in plastic and aseptic packaging and changes in electronics. Recommendations on how to continually update and improve these metrics through additional case studies, research and development should be included. Also include a review of availability of data, sources and key data or methodology and metrics gaps.

The scope is to update and improve the existing recycling metrics; provide at least one recycling and reuse metric for use at the local, state, regional and national level and provide recommendations for additional metrics and improvements. The jobs per 1,000 tons metric will be used in the State Measurement Data Sharing Program and as a generic rule of thumb in assessing recycling market development potential.

There will be one full review of each written draft deliverable and at least two minor edits.

March 31, 2015 Revision: Draft due April 13, 2015.

DELIVERABLES	DUE DATES
Draft Report on REI metrics	Within 45 calendar days from EPA methodology approval or mutually agreed time after initial meeting
	EPA has up to 30 calendar days for review
Final Report on REI metrics	Within 15 calendar days of Draft approval
Transfer all original data and reference materials collected during the project	Within 10 calendar days after completion of task 3.

Part 3- Other information

Communications

Contractor should anticipate biweekly teleconferences as needed between deliverable times lasting an average of 30 to 45 minutes each.

Period of Performance

The Period of Performance for this Task Order shall conclude 12 months from contract award date.

Deliverables

Please provide all deliverables, source documentation and all supporting research and documentation of the methodology, report and recommendations electronically by email and one hard copy to the TOCOR and alternative TOCOR in Microsoft Office 2013 compatible

products including (Word, Access, Excel, Publisher, and Power Point).

References

MSW Characterization Report

Partial list of selected economic impact studies

National Recycling Focus

US EPA, US Recycling Economic Information Project.

Tellus Institute with Sound Resource Management for Recycling Works!, <u>More Jobs, Less Pollution: Growing the Recycling Economy in the U.S.</u>, 2011.

National with some State and Congressional Breakdown

Institute of Scrap Recyclers Industries, Inc. (ISRI), <u>Economic Impact Study U.S.-Based Scrap Recycling Industry 2011</u>. Updated in 2013.

Regional Recycling Focus

NERC NRC REI Report (1994 and 2000)

Northeast Recycling Council (NERC), <u>Recycling Economic Information Study Update: Delaware, Maine, Massachusetts, New York, and Pennsylvania FINAL REPORT.</u> February, 2009

Southeast Recycling Development Council (SERDC) <u>lists of state economic impact related reports</u>.

State Recycling Focus

Arizona (1996)

REI related California, Florida, Indiana, Nebraska, Ohio, Illinois, Minnesota, Wisconsin and Missouri (2000-2001)

California Integrated Waste Management Board (CIWMB) now CalRecycle, <u>The Economic</u> <u>Impact of Waste Disposal and Diversion in California</u>, 2001. (University of California, Berkeley, IMPLAN)

Connecticut Resources Recovery Authority, <u>The Economic Impact on Connecticut from Recycling Activity</u>, 2012. (Used IMPLAN.)

Illinois DCCA (2002)

Illinois Recycling Coalition and Illinois DCEO, 2010 Recycling Economic Information Study Update for Illinois. (DSM Environmental, whole model)

Indiana (2001)

Indiana Recycling Coalition, <u>The untapped job potential of Indiana's recycling industry</u>, 2013. (Bowen Center for Public Affairs, Ball State University)

lowa (1996, 2001)

lowa Department of Natural Resources (Iowa DNR), <u>Economic Impacts of Recycling in Iowa</u>, 2007. (RW Beck, I/O used)

Massachusetts (2004)

Michigan (2001)

Missouri's Environmental Improvement and Energy Resources Authority (EIERA), Missouri Recycling Economic Information Study MOREIS, 2003. (Institute of Public Policy, Truman School of Public Policy, University of Missouri – Columbia). Updated in 2006.

Missouri Organization of Recyclers (MORA) <u>Recycling in Missouri: Expanding our economy Strengthening our communities Improving our environment A 2013 Progress Report, 2013.</u>

Missouri grant impact ROI reference

Minnesota Office of Environmental Assistance, now Minnesota Pollution Control Agency (MPCA), Minnesota's Recycling Industries: Economic Activity Summary, 2002.

Montana DEQ (2004)

North Carolina (2008)

North Carolina Department of Environment and Natural Resources, Recycling Business Assistance Center (RBAC) Employment Trends in North Carolina's Recycling Industry, 2010.

North Carolina Department of Environment and Natural Resources, Recycling Business Assistance Center (RBAC) <u>Employment Trends in North Carolina's Recycling Industry</u>, 2013

Ohio Department of Natural Resources (Ohio DNR), Ohio Recycling Economic Information Study 2001. (RW Beck, NRC)

Pennsylvania (2007)

South Carolina Department of Health and Environmental Control and the S.C. Department of Commerce, <u>The Economic Impact of the Recycling Industry in South Carolina</u>, 2006. (College of Charleston, IMPLAN)

Virginia Department of Environmental Quality (VA DEQ), <u>The Economic Benefits of Recycling in Virginia</u>, >2007. (Thomas Jefferson Program in Public Policy At the College of William and Mary)

Washington Survey of Washington State's Recycling Industry (1992 and updates)

Local Government

St. Louis - Jefferson Solid Waste Management District, St. Louis Metropolitan Area Recycling Economic Information Study (SLMAREIS) 2002. (College of Business Administration, University of Missouri - St. Louis and University of Missouri Outreach and Extension)

Seattle/King County

Broader Sustainability or "Green" Focus

State of California Employment Development Department, <u>California's Green Economy</u>, <u>Summary of Survey Results</u>, 2010.

Bureau of Labor Statistics Measuring Green Jobs

Recycling Job Metrics

Type of Operation	Jobs per 10,000 TPY
Product Reuse	
Computer Reuse	296
Textile Reclamation	85
Misc. Durables Reuse	62
Wooden Pallet Repair	28
Recycling-based Manufacturers	25
Paper Mills	18
Glass Product Manufacturers	26
Plastic Product Manufacturers	. 93
Conventional Materials Recovery Facilities	10
Composting	4
Landfill and Incineration	1

TPY = tons per year Note: Figures are based on interviews with select facilities around the country. **Source:** Institute for Local Self-Reliance, Washington, DC, 1997.

EPW10054/0072/003 http://www.ilsr.org/recycling-means-business/

AMENDMENT OF SOLICITATION/MODI	FICATION OF CONTRACT		1. CONTRACT ID CODE	PAGE OF PAGES
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BETHESDA MD 208143343		x	10A. MODIFICATION OF CONTRACT/ORDER EP-W-10-054 0072	R NO.
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STANDARD FORM 30 (REV. 10-83) Prescribed by GSA FAR (48 CFR) 53.243
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NAME OF OFFEROR OR CONTRACTOR ABT ASSOCIATES INC.

ITEM NO.	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
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NAME OF OFFEROR OR CONTRACTOR ABT ASSOCIATES INC.

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total funds ceiling remains point. All other terms and continued Except as provided herein, all terms and conditions of	condition	s remain the	S	ame.			
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15B. CONTRACTOR/OFFEROR		15C. DATE SIGNED	1	6B. UNITED STATES OF AMERICA	ELECTRON SIGNATU	vic	09/08/2015
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STANDARD FORM 30 (REV. 10-83) Prescribed by GSA FAR (48 CFR) 53.243

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NAME OF OFFEROR OR CONTRACTOR ABT ASSOCIATES INC.

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proposal dated September 14,	2015, wh	nich removes	tas	ks 6A and 6B from the S	tate	ment	of
Work. This modification brin	ngs the to	otal price ce	eili	ng down by \$205,202.43	to a	new	total
estimated price of \$274,282.	97 for th	nis Task Orde	er.				
This modification also adds amount of funding obligated funded. The contractor shall Continued Except as provided herein, all terms and conditions of the contractor of the continued of the contractor of th	to this the total	Task Order is beyond this	s no	ow \$274,282.97. This Tas Dint. All other terms an	k Or d co	der i nditi	s fully ons
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NAME OF OFFEROR OR CONTRACTOR ABT ASSOCIATES INC.

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	New Total Price Ceiling for this Task Order		1 1		
	changed from \$479,485.40 to \$274,282.97	-			
	Obligated Amount for this Modification: \$75,970.95				
	Incremental Funded Amount changed: from				
	\$198,312.02 to \$274,282.97		1 1		
	NEW ACCOUNTING CODE ADDED:				
	Account code:		H		
	15-16-B-31M-302DA1-2585-1531MRP025-001				
	Beginning FiscalYear 15		1 1		
	Ending Fiscal Year 16		1 1		
	Fund (Appropriation) B				
	Budget Organization 31M		1 1		
	Program (PRC) 302DA1	ļ			
	Budget (BOC) 2585	1			
	Job # (Site/Project)				
	Cost Organization		1		
	DCN-LineID 1531MRP025-001	ľ	1 1		
	Amount: \$75,970.95				
	Subject To Funding: N		1 1		×
	Delivery Location Code: HPOD RRB				
90	HPOD RRB				
	US Environmental Protection Agency	1	1 1		
	USEPA Ronald Reagan Building (RRB)				
	1300 Pennsylvania Avenue NW	ļ		2.	
	Washington dc 20004 USA				
	Payment:				
	RTP Finance Center				
	US Environmental Protection Agency				
	RTP-Finance Center (AA216-01)				
	109 TW Alexander Drive			ľ	155 20
	www2.epa.gov/financial/contracts	1			
	Durham NC 27711	1	1	į.	B.
	FOB: Destination				
	Period of Performance: 05/19/2014 to 02/29/2016	ur Ç			
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AMENDMENT OF SOLICITATION/MODIFI	CATION OF CO	ONTRACT		1. CONTRACT ID CODE	PAGE	E OF PAGES		
2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE	DATE	4. RE	L QUISITION/PURCHASE REQ. NO.	5. PROJECT	NO. (If applicable)		
008	See Bloo	k 16C			1			
6. ISSUED BY COD			7. AD	MINISTERED BY (If other than Item 6)	CODE			
SRRPOD US Environmental Protection Superfund/RCRA Regional Pro Operations 1200 Pennsylvania Ave, NW Washington DC 20460	100 N							
8. NAME AND ADDRESS OF CONTRACTOR (No., str.	et, county, State and	ZIP Code)	. 94	A AMENDMENT OF SOLICITATION NO.				
ABT ASSOCIATES INC. Attn: (b)(4) 4550 MONTGOMERY AVENUE SUITE 800 NORTH BETHESDA MD 208143343	es, county, case and		9E x 10 E	B. DATED (SEE ITEM 11) DA. MODIFICATION OF CONTRACT/ORDER NP-W-10-054 072 DB. DATED (SEE ITEM 13)	Ю.			
CODE 058505530	FACILITY COL	DE .	- 1	State of the Control				
CODE 058595539	Cathanita var w w enement		1	05/22/2014 MENTS OF SOLICITATIONS				
separate letter or telegram which includes a referent THE PLACE DESIGNATED FOR THE RECEIPT O virtue of this amendment you desire to change an oreference to the solicitation and this amendment, at 12. ACCOUNTING AND APPROPRIATION DATA (If it is see Schedule 13. THIS ITEM ONLY APPLIES TO CHECK ONE A THIS CHANGE ORDER IS ISSUE ORDER NO. IN ITEM 10A. FAR 52.243-3 Change B. THE ABOVE NUMBERED CONTRAPPOPRIATION date, etc.) SET FOR	ice to the solicitation F OFFERS PRIOR Iffer already submitted in received prior equired) MODIFICATION O D PURSUANT TO: ES; B.3 Pe LACT/ORDER IS M LTH IN ITEM 14, PL	n and amendment numbe TO THE HOUR AND DAT led, such change may be to the opening hour and d F CONTRACTS/ORDERS (Specify authority) THE C TIOD OF THE (ODIFIED TO REFLECT T JRSUANT TO THE AUTH	ers. F TE SP made date sp date sp CHAN CHAN CONT	ECIFIED MAY RESULT IN REJECTION OF YO by telegram or letter, provided each telegram of pecified. RODIFIES THE CONTRACT/ORDER NO. AS DEGES SET FORTH IN ITEM 14 ARE MADE IN TACT DMINISTRATIVE CHANGES (such as changes YOF FAR 43.103(b).	BE RECEIVED FUR OFFER If FOR IELLE MAKES ESCRIBED IN IT THE CONTRAC	EM 14.		
C. THIS SUPPLEMENTAL AGREEM D. OTHER (Specify type of modification)	**************************************	INTO PURSUANT TO AU	THOR	RIT OF:				
E. IMPORTANT: Contractor is not.	[Y] is required t	to sign this document and	retur	copies to the issuin	n office	·		
14. DESCRIPTION OF AMENDMENT/MODIFICATION DUNS Number: 058595539 Recycling Economic Impact TOCOR: Kent Foerster Max Extra purpose of this modification 4/29/2016 at no cost to remain the same.	(REI) Metr spire Date cation is	ics : 04/29/2016 to extend the	luding	solicitation/contract subject matter where feasi	this Ta			
LIST OF CHANGES: Reason for Modification: (Period Of Performance End I Maximum Potential Expiration Continued Except as provided herein, all terms and conditions of the second state of the second stat	Date chang on Date ch	ed from 29-FF anged to : (0 4 / 2 A, as i	29/2016 neretofore changed, remains unchanged and in NAME AND TITLE OF CONTRACTING OFF				
			Ma	rk Heare				
15B. CONTRACTOR/OFFEROR		15C. DATE SIGNED	16E	. UNITED STATES OF AMERICA	LECTRONIC	16C. DATE SIGNED		
(Signature of person authorized to sign)			-	Markl Hear (Signature of Contracting Officer)	SIGNATURE	10/26/2016		
					STANDARD FO	DM 30 (REV. 10-83)		

NSN 7540-01-152-8070 Previous edition unusable STANDARD FORM 30 (REV. 10-83) Prescribed by GSA FAR (48 CFR) 53.243

		PAGE O	F
CONTINUATION SHEET	EP-W-10-054/0072/008	2	2

NAME OF OFFEROR OR CONTRACTOR ABT ASSOCIATES INC.

EM NO.	SUPPLIES/SERVICES	QUANTITY		UNIT PRICE	TANDOMA
A)	(B)	(C)	(D)	(E)	(F)
ie.	Payment:				
	RTP Finance Center		1		
Ĭ	US Environmental Protection Agency			Î	
	RTP-Finance Center	1	l l		
	Mail Drop D143-02				
	109 TW Alexander Drive				
	Durham NC 27711		,		
	Period of Performance: 05/19/2014 to 04/29/2016		ĺ		
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